WHAT IS CLAIMED IS:

1. A gamut mapping system, comprising:

an image processing module for transforming an input image into a luminance component L_{in} and chrominance components, C_1 and C_2;

a spatial low pass filter, responsive to L_{in} for outputting a filtered luminance component L_f; and

a luminance compression module responsive to L_f and L_{in} for outputting a compressed luminance signal L_{out} that is within an achievable luminance range of an output device.

2. The system of claim 1, wherein the luminance compression module combines two compression functions $L_{comp1}(L_{in})$ and $L_{comp2}(L_{in})$ via a blending function $\alpha(L_f)$.

3. The system of claim 2, wherein L_{out} is computed according to the relationship $L_{out} = \alpha(L_f)\ Lcomp1(L_{in}) + (1 - \alpha(L_f))\ Lcomp2(L_{in})$.

4. The system of claim 2, wherein $\alpha(L_f)$ is a piecewise linear function, determined by two breakpoints, B_1 and B_2.

5. The system of Claim 2, wherein function L_{comp1} is optimized for preserving overall image contrast.

6. The system of Claim 2, wherein function L_{comp2} is optimized for preserving shadow detail.

7. The system of claim 4, wherein:

$\alpha(L_f) = 0$ for values of L_f between 0 and B_1;

$\alpha(L_f)$ increases linearly from 0 to 1 for values of L_f from B_1 to B_2; and

$\alpha(L_f) = 1$ for values of L_f between B_2 and L_{max},

where L_{max} is a maximum luminance achievable by the output device.

8. The system of claim 1, wherein the luminance compression module, responsive to the chrominance components C_1 and C_2, in addition to L_f and L_{in}, for outputting a compressed luminance signal L_{out} that is within the achievable luminance range of an output device.

9. The system of claim 1, wherein the low pass filter comprises a constant weight filter.

10. The system of claim 1, wherein the image is down-sampled prior to filtering and upsampled and interpolated after filtering.

11. The system of claim 1, further comprising a color correction module for transforming L_{out}, C_1 and C_2 to CMYK for printing.

12. A method for gamut mapping, comprising:

transforming an input image into a luminance component L_{in} and chrominance components, C_1 and C_2;

spatially low pass filtering L_{in} into a filtered luminance component L_f; and

processing L_f and L_{in} through a luminance compression module to obtain a compressed luminance signal L_{out} that is within an achievable luminance range of an output device.

13. The method of claim 12, wherein the processing step comprises combining two compression functions $L_{comp1}(L_{in})$ and $L_{comp2}(L_{in})$ via a blending function $\alpha(L_f)$.

14. The method of claim 13, wherein $L_{comp1}(L_{in})$ and $L_{comp2}(L_{in})$ are combined according to the relationship $L_{out} = \alpha(L_f)\ Lcomp1(L_{in}) + (1 - \alpha(L_f))\ Lcomp2(L_{in})$.

15. The method of claim 13, wherein $\alpha(L_f)$ is a piecewise linear function, determined by two breakpoints, B_1 and B_2.

16. The method of Claim 13, wherein function L_{comp1} is optimized for preserving overall image contrast.

17. The method of Claim 13, wherein function L_{comp2} is optimized for preserving shadow detail.

18. The method of claim 15, wherein:

$\alpha(L_f) = 0$ for values of L_f between 0 and B_1;

$\alpha(L_f)$ increases linearly from 0 to 1 for values of L_f from B_1 to B_2; and

$\alpha(L_f) = 1$ for values of L_f between B_2 and L_{max},

where L_{max} is a maximum luminance achievable by the output device.

19. The method of claim 12, wherein the processing step comprises incorporating C_1 and C_2, in addition to L_f and L_{in}, for outputting a compressed luminance signal L_{out} that is within the achievable luminance range of an output device.

20. The method of claim 12, wherein the spatial low pass filtering comprises applying a constant weight filter.

21. The method of claim 12, further comprising down-sampling the input image prior to filtering and upsampling and interpolating the input image after filtering.

22. The method of claim 12, further comprising applying a color correction for transforming L_{out}, C_1 and C_2 to CMYK for printing.